

# International relations in science and medicine:

## Three case studies

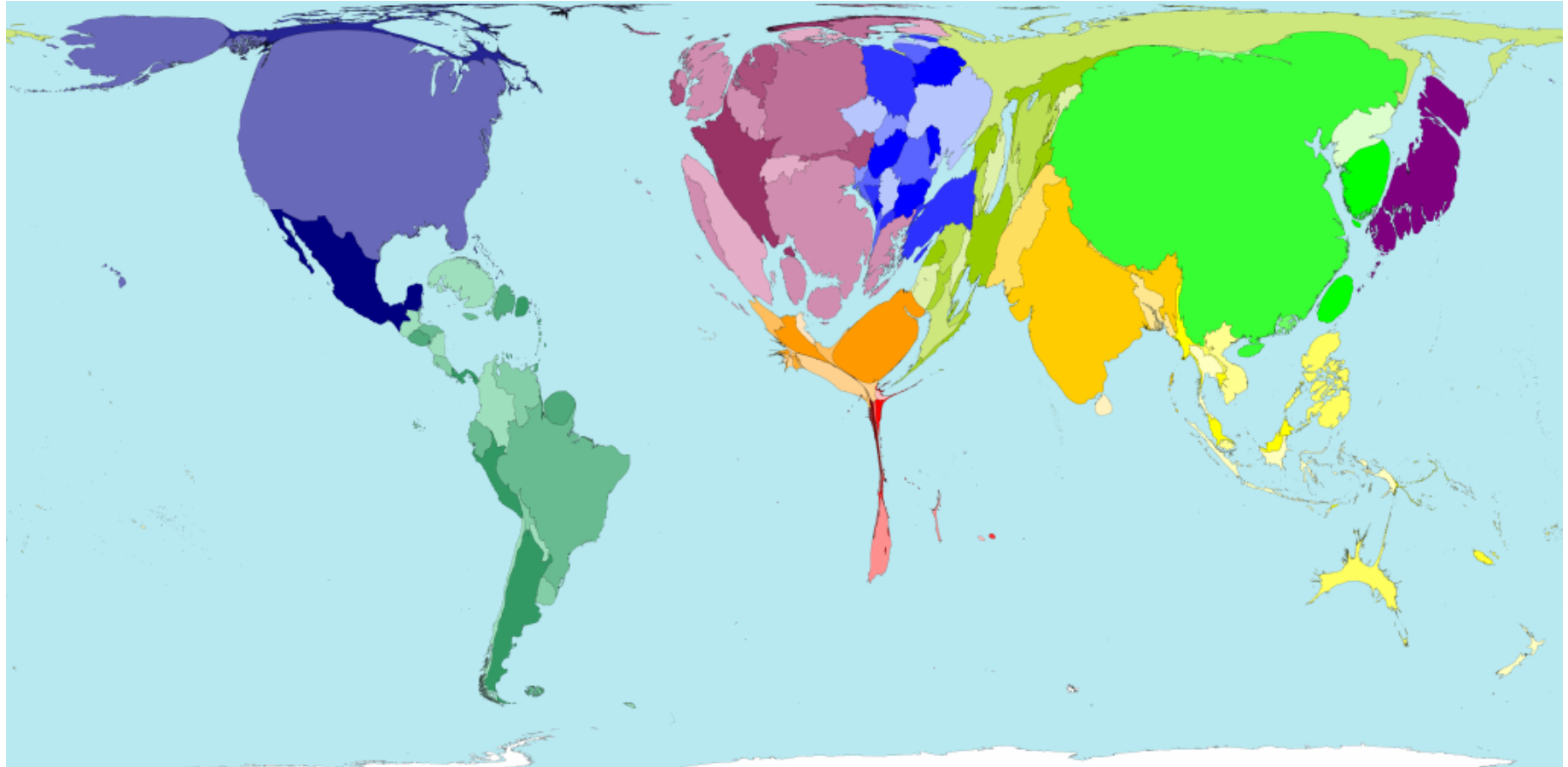
### Case #1: The Uganda Cancer Institute

Harold Varmus

Pembroke College, Oxford University

May 3, 2013

# DISTRIBUTION OF WORKING PHYSICIANS (7.7 Million, 2004)



Worldmapper #219

# 1957: AN IRISH SURGEON DISCOVERS AN IMPORTANT DISEASE IN UGANDA



**DENIS BURKITT**



**BURKITT LYMPHOMA**

# Response of Burkitt lymphoma to cytotoxic therapy with single drug



CYTOXAN

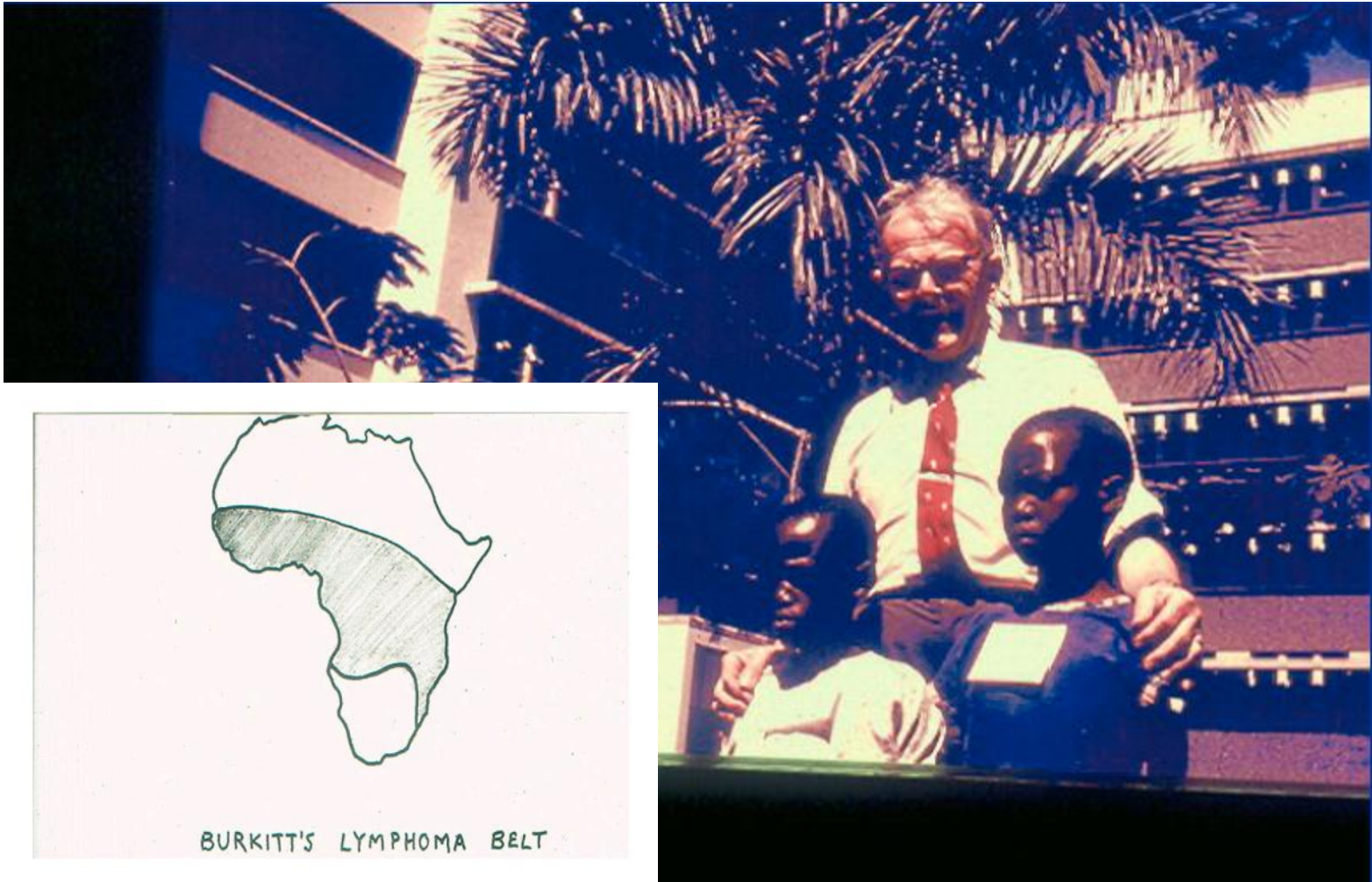




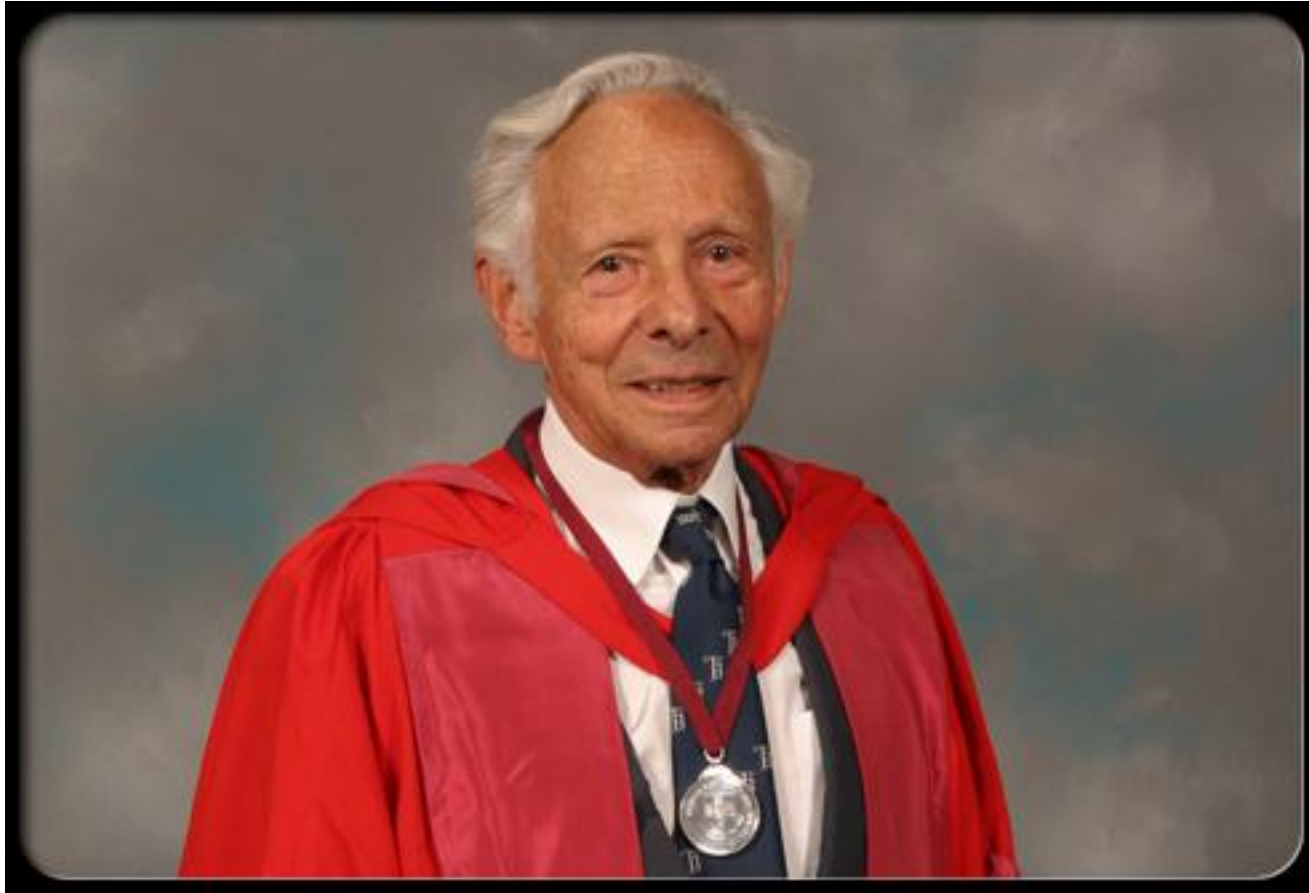
# Dennis Burkitt: Mulago Hospital



# Burkitt lymphoma belt: High incidence of malaria

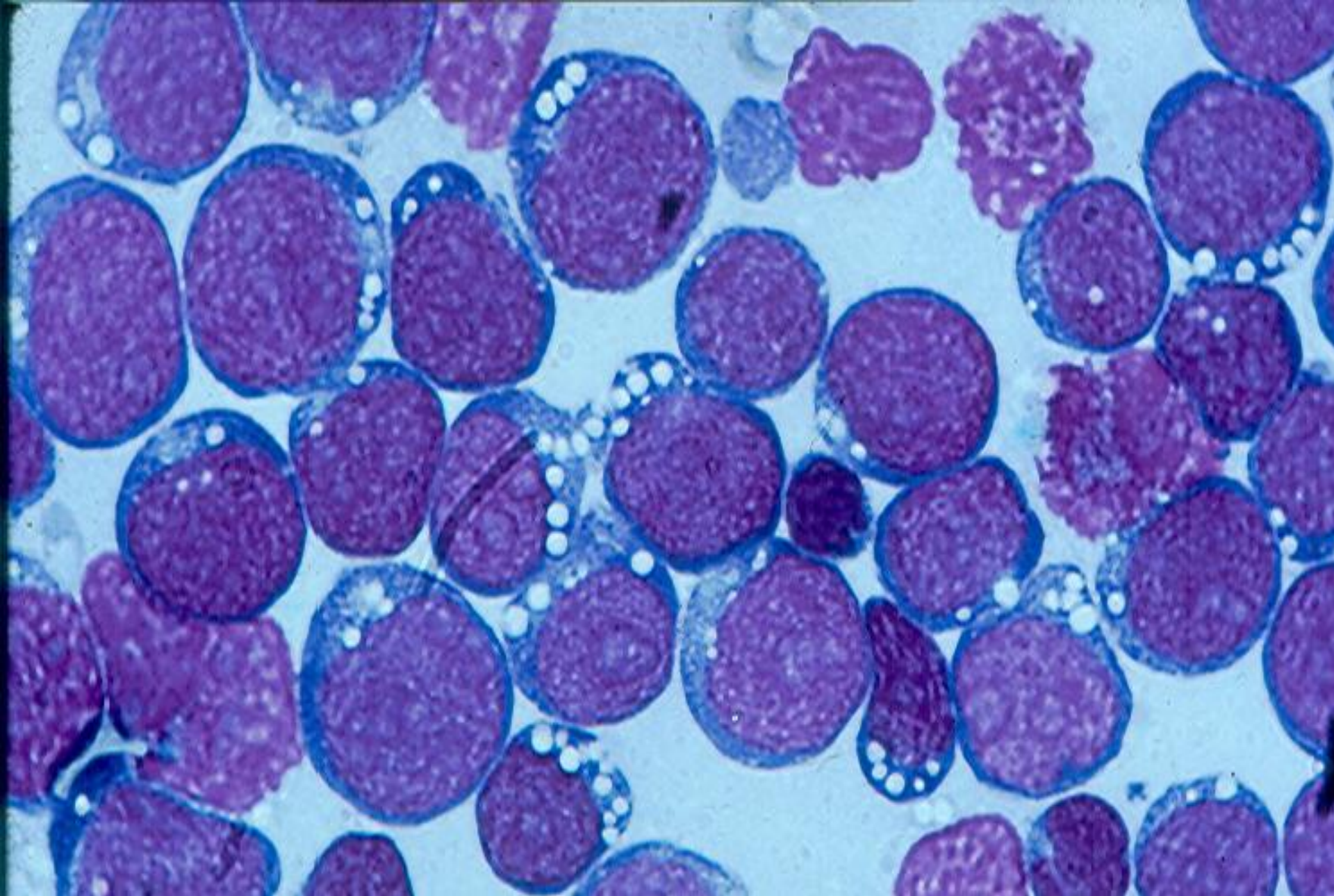


**DELIVERY OF BURKITT LYMPHOMAS TO MIDDLESEX HOSPITAL  
IN 1962 LEADS TO DISCOVER OF EPSTEIN-BARR VIRUS**



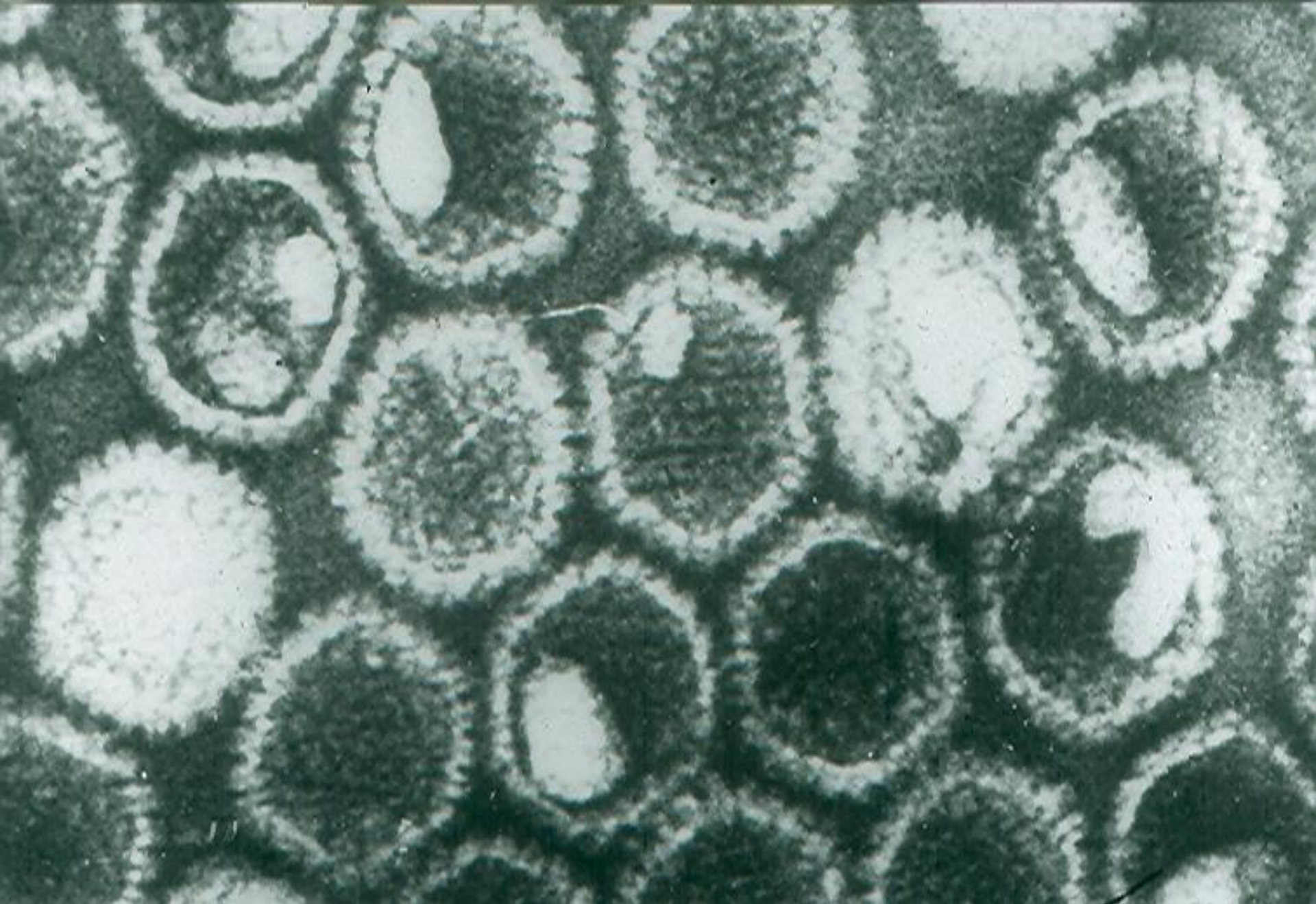
**Sir Anthony Epstein  
Honorary Fellow, Wolfson College, Oxford U.**





**Cells growing from Burkitt Lymphoma**





**Herpes virus particles: Epstein-Barr Virus from BL cells**

# IMMUNOLOGICAL STUDIES SHOW THAT EBV CAUSES INFECTIOUS MONONUCLEOSIS



**Gertrude and Walter Henle, Philadelphia, USA**





**LYMPHOMA TREATMENT CENTER, MULAGO HOSPITAL**



# The NCI Delegation



**John Ziegler, Paul Carbone, Gordon Zubrod**

# Establishment of the Uganda Cancer Institute, 1967



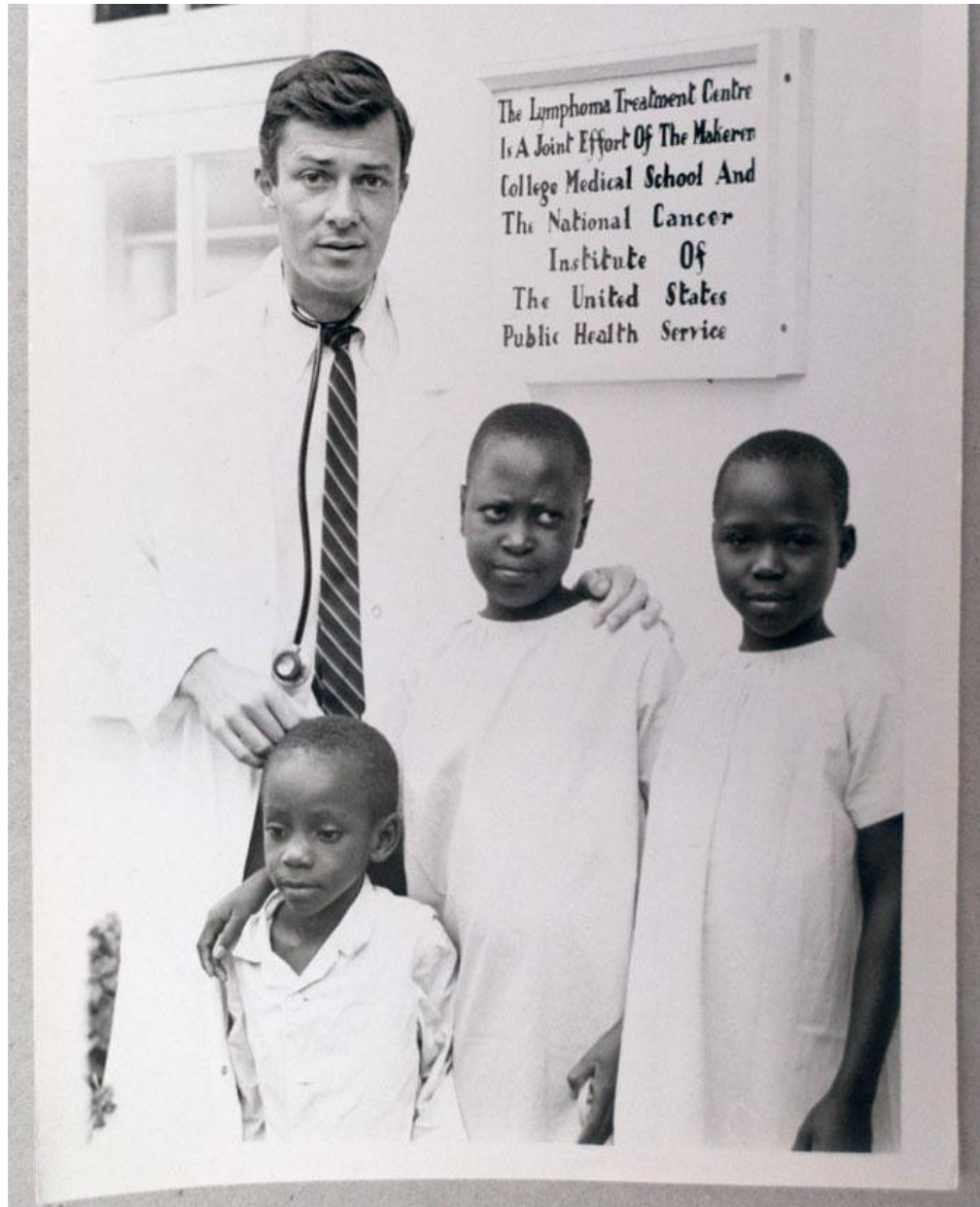
**Paul Carbone, John Ziegler, Ugandan Minister of Health**

# Commissioning the Uganda Cancer Institute (1967)





# John Ziegler with Patients at the LTC/UCI



# UGANDAN POLITICAL UPHEAVALS

1966 TO 1985



**APOLLO MILTON OBOTE, PRESIDENT 1966-1971**



\$1.00

MARCH 7, 1973

# TIME

## THE WILD MAN OF AFRICA

Uganda's  
Idi Amin

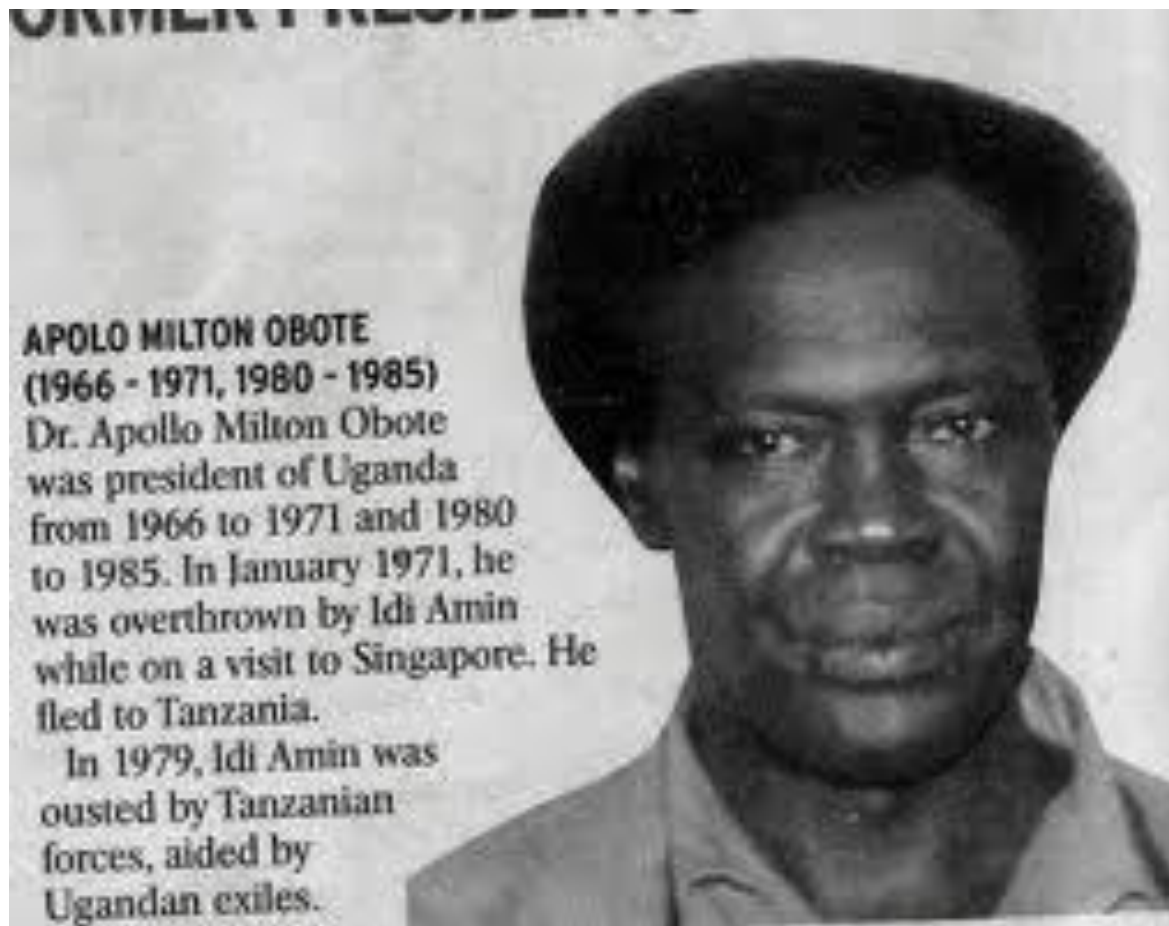
**INSIDE: The Great Western Drought**

**PRESIDENT IDI AMIN,  
1971 TO 1979**

# GUARDIANS OF UCI DURING POLITICAL INSTABILITY



Charles Olweny



**APOLO MILTON OBOTE**  
(1966 - 1971, 1980 - 1985)  
Dr. Apollo Milton Obote was president of Uganda from 1966 to 1971 and 1980 to 1985. In January 1971, he was overthrown by Idi Amin while on a visit to Singapore. He fled to Tanzania.

In 1979, Idi Amin was ousted by Tanzanian forces, aided by Ugandan exiles.

**OBOTE RETURNS TO POWER, 1980 TO 1985**



# GUARDIANS OF UCI DURING POLITICAL INSTABILITY



Charles Olweny



Edward Katongole-Mbidde



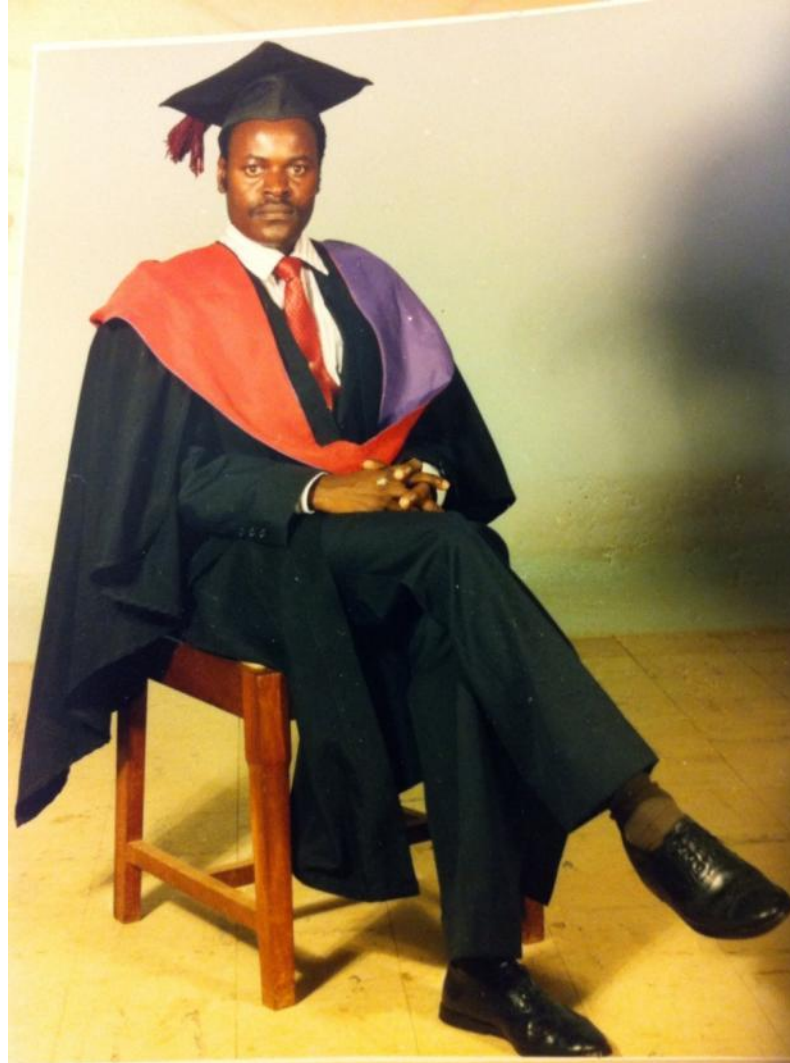
**YOWERI MUSEVENI BECOMES PRESIDENT,  
1985 TO PRESENT**

# AN AMERICAN VISITOR DURING UCI RECONSTRUCTION



**Susan Desmond-Hellmann, now Chancellor of UCSF,  
with Ugandan medical scientist, Nelson Sewankambo**

**A UCI-TRAINED PHYSICIAN-SCIENTIST  
WHO STUDIED IN THE UK AND WORKS AT THE US NCI**



**Sam Mbulaiteye, 1990**



THE MODERN ERA AT THE UCI:

A COLLABORATION WITH THE FRED HUTCHISON  
CANCER RESEARCH CENTER (SEATTLE)



**JACKSON OREM, UCI DIRECTOR, 2004-PRESENT**

# The FHCRC/UCI Collaboration: From Inauspicious Beginnings...





# FHCRC-UCI Team: Training by Mutual Exchange



# FHCRC Project House



# UCI: Treatment Facilities







**Corey Casper of FHCRRC, physician and scientist**

## Signing UCI-FHCRC MOU, 25 April 2008



**Lee Hartwell, FHCRC President and Director, and Jackson Orem, Uganda Cancer Institute Director**



# Plans for Uganda Cancer Institute, Kampala



**Co-funding by FHCRC, USAID, GOVT OF UGANDA**





**Ground-breaking, October 4, 2011,  
by Edward Ssekandi, Ugandan Vice-President**



## UCI Groundbreaking



**Larry Corey, FHCRC President, with Apolo Nsibambi, former Ugandan Prime Minister, and Charles Olweny, former UCI Director**



# LESSONS LEARNED



## Some NCI-designated Cancer Centers active in Africa

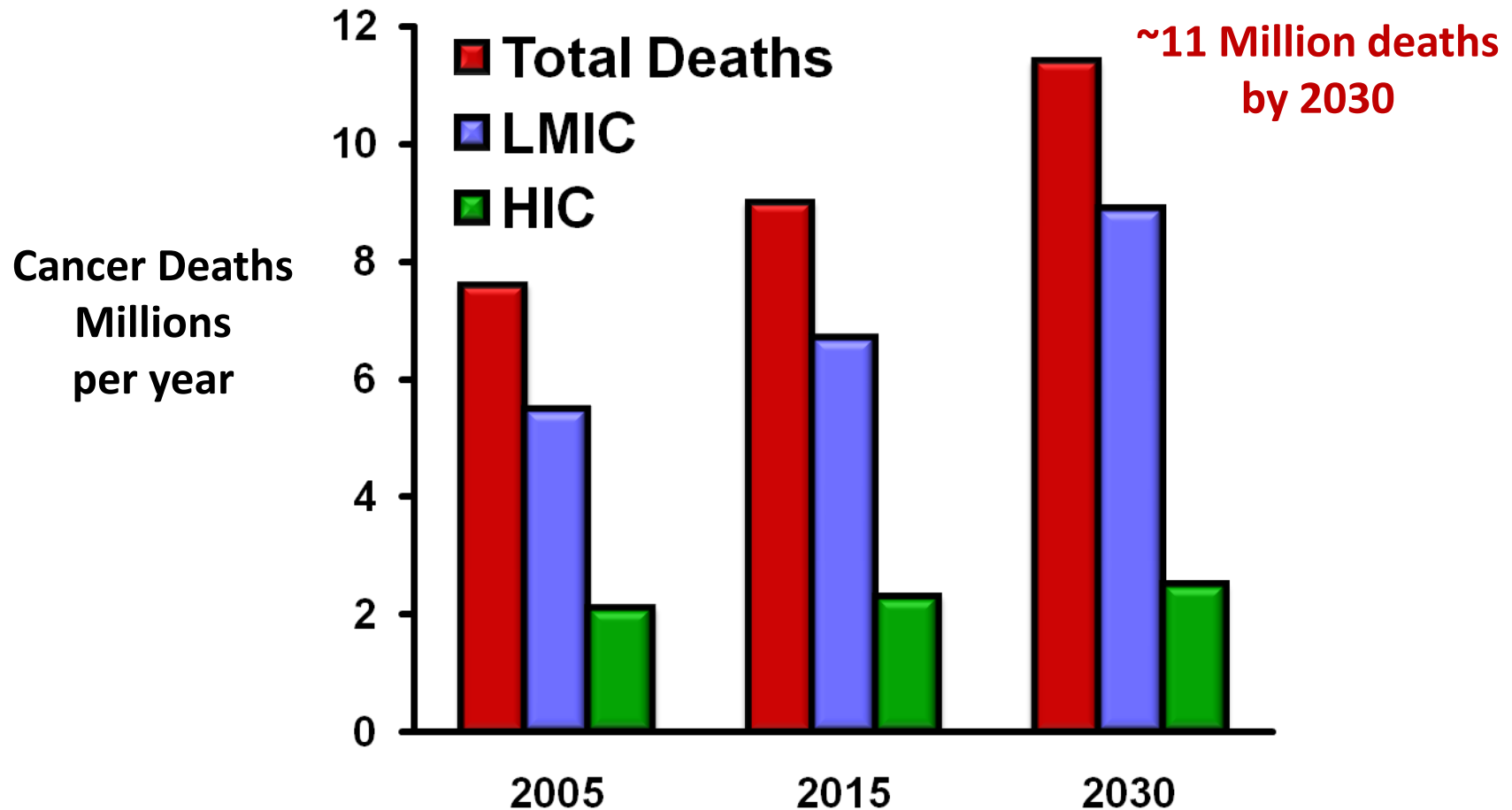
- Fred Hutchinson Cancer Research Center: Uganda
- University of North Carolina: Malawi
- University of Maryland: Nigeria
- University of Michigan: Ghana
- Indiana University: Kenya

## Partnering agencies in USG

CDC, FDA, other NIH Institutes,  
PEPFAR, USAID, etc

# Cancer Cases Are Rising Globally Especially in Less Developed Settings

Cancer currently accounts for ~12.5% of ~60 Million global deaths.



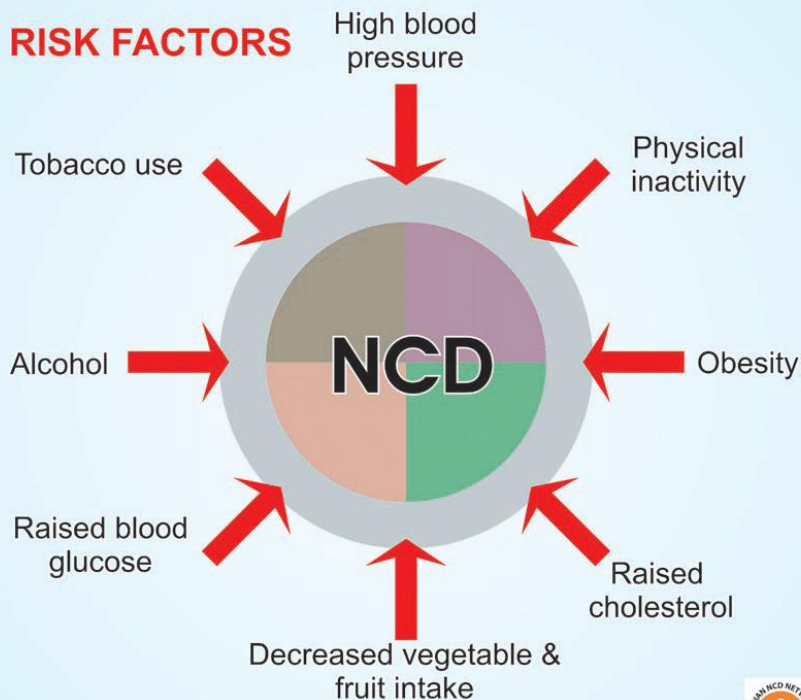
# EXPANSION OF ATTENTION TO NCD'S

## NON COMMUNICABLE DISEASES (NCDs)

### NON COMMUNICABLE DISEASES INCLUDE

- Cardiovascular disease (CVD)
- Diabetes Mellitus (DM)
- Chronic obstructive pulmonary disease (COPD)
- Cancer

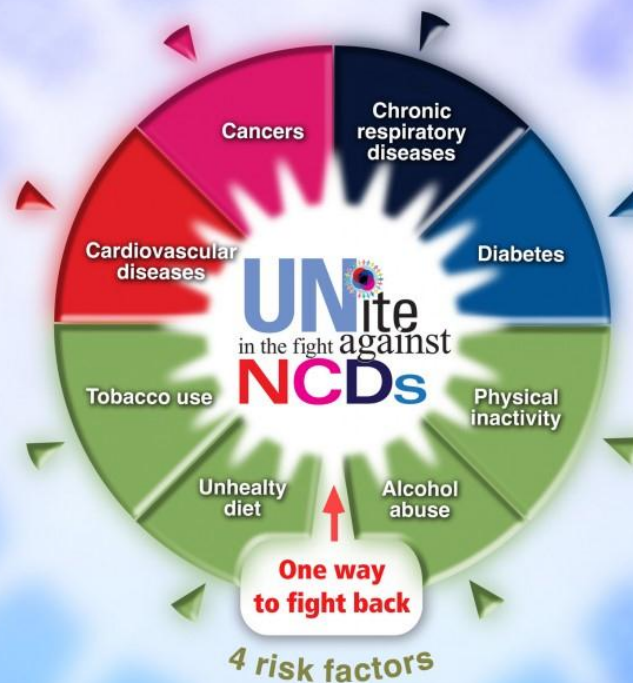
### RISK FACTORS



Developed by MDRF and WHO India under the GOI-WHO Collaborative Programme 04-05



## 4 non-communicable diseases (NCDs)



Support the  
UN High-level Meeting  
on NCD Prevention  
& Control!

Sep.19-20, 2011,  
New York City



**Pan American  
Health  
Organization**

Regional Office of the  
World Health Organization



# NCI'S NEW CENTER FOR GLOBAL HEALTH

- ASSIST DEVELOPMENT OF REGISTRIES AND NATIONAL CANCER PLANS
- CAPITALIZE ON ONCOGENIC INFECTIONS: NEW AND EXISTING VACCINES, ETC
- LINK TO TRANS-DISEASE PREVENTION: TOBACCO, OBESITY, ALCOHOL...
- PURSUE OPERATIONAL IMPROVEMENTS: SCREENING, ACCESS TO TREATMENT AND SYMPTOM CONTROL, SURGERY, HEALTH SYSTEMS
- HARNESS ENTHUSIASM, FIND PARTNERS, AND BUILD CAPACITY



**To address the growing international challenge of cancer,  
our “reach should exceed [our] grasp”**

**COMMENTARY/POLICY**

**Addressing the Growing International  
Challenge of Cancer: A Multinational  
Perspective**

**H. Varmus and H. S. Kumar**

***Science Translational Med* 2013;5:175.**

**Leaders in cancer research and policy from 15 economically diverse countries met at the U.S. National Institutes of Health in November 2012 to discuss opportunities to reduce cancer incidence and mortality, improve cancer care, and increase our understanding of disease pathophysiology. Here, we present recommendations that the participants believe will enable faster progress in addressing the growing international challenge of cancer.**

